

WHAT IS CLAIMED IS:

1. A satellite broadcasting receiver receiving a signal radio wave from a broadcasting satellite, comprising:

first to n th (where n is an integer equal to or larger than 2) amplifiers respectively amplifying first to n th signals extracted from said signal radio wave;

a connection node supplied with outputs from said first to n th amplifiers; and

a power supply control circuit controlling said first to n th amplifiers to set a current flowing through one of said first to n th amplifiers at a prescribed value and set currents flowing through all the other amplifiers at 0 such that an output from said one amplifier is transmitted through said connection node.

2. The satellite broadcasting receiver according to claim 1, further comprising a $(n+1)$ th amplifier for amplifying an output transmitted from said connection node.

3. The satellite broadcasting receiver according to claim 2, wherein each of said first to $(n+1)$ th amplifiers includes a high electron mobility transistor.

4. The satellite broadcasting receiver according to claim 2, further comprising a frequency converting circuit converting an output from said $(n+1)$ th amplifier to an intermediate frequency signal.

5. A satellite broadcasting receiver receiving signal radio waves from broadcasting satellites, comprising:

first to fourth amplifiers respectively amplifying first to fourth signals extracted from said signal radio wave;

a first connection node supplied with outputs from said first and second amplifiers;

a second connection node supplied with outputs from said third and fourth amplifiers;

a third connection node supplied with outputs from said first and second connection nodes;

a fifth amplifier amplifying an output transmitted from said third connection node;

a power supply control circuit controlling said first to fourth amplifiers to set a current flowing through one of said first to fourth amplifiers at a prescribed value and set currents flowing through all the other amplifiers at 0 such that an output from said one amplifier is transmitted to said fifth amplifier through said third connection node.

6. The satellite broadcasting receiver according to claim 5, wherein each of said first to fifth amplifiers includes a high electron mobility transistor.

7. The satellite broadcasting receiver according to claim 5, further comprising a frequency converting circuit converting an output from said fifth amplifier to an intermediate frequency signal.

8. The satellite broadcasting receiver according to claim 5, further comprising:

sixth to ninth amplifiers respectively amplifying fifth to eighth signals extracted from said signal radio wave;

a fourth connection node supplied with outputs from said sixth and seventh amplifiers;

a fifth connection node supplied with outputs from said eighth and ninth amplifiers;

a sixth connection node supplied with outputs from said fourth and fifth connection node;

a tenth amplifier amplifying an output transmitted from said sixth connection node; and

a seventh connection node supplied with outputs from said fifth and

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tenth amplifiers, wherein

15 said power supply control circuit controls said sixth to ninth
amplifiers to set a current flowing through one of said sixth to ninth
amplifiers at a prescribed value and set currents flowing through all the
other amplifiers at 0 such that an output from said one amplifier is
transmitted to said tenth amplifier through said sixth connection node, and
20 controls said fifth and tenth amplifiers to set currents flowing through said
fifth and tenth amplifiers respectively at a prescribed value and 0 such that
an output from said fifth amplifier is transmitted through said seventh
connection node and set currents flowing through said fifth and tenth
amplifiers respectively at 0 and a prescribed value such that an output
25 from said tenth amplifier is transmitted through said seventh connection
node.

9. The satellite broadcasting receiver according to claim 8, wherein
each of said sixth to tenth amplifiers includes a high electron mobility
transistor.

10. The satellite broadcasting receiver according to claim 8, further
comprising a frequency converting circuit converting an output from said
seventh connection node to an intermediate frequency signal.

11. A satellite broadcasting receiver receiving signal radio waves
from broadcasting satellites, comprising:

first to fourth amplifiers respectively amplifying first to fourth
signals extracted from said signal radio wave;

5 a first connection node supplied with outputs from said first and
second amplifiers;

a second connection node supplied with outputs from said third and
fourth amplifiers;

10 a fifth amplifier amplifying an output transmitted from said first
connection node;

a sixth amplifier amplifying an output transmitted from said second

connection node;

a third connection node supplied with outputs from said fifth and sixth amplifiers; and

15 a power supply control circuit controlling said first to fourth amplifiers to set a current flowing through one of said first to fourth amplifiers at a prescribed value and set currents flowing through all the other amplifiers at 0 such that an output from said one amplifier is transmitted to said fifth or sixth amplifier through said first or second connection node, and controlling said fifth and sixth amplifiers to set currents flowing through said fifth and sixth amplifiers respectively at a prescribed value and 0 such that an output from said fifth amplifier is transmitted through said third connection node and set currents flowing through said fifth and sixth amplifiers respectively at 0 and a prescribed value such that an output from said sixth amplifier is transmitted through said third connection node.

12. The satellite broadcasting receiver according to claim 11, wherein each of said first to sixth amplifiers includes a high electron mobility transistor.

13. The satellite broadcasting receiver according to claim 11, further comprising a frequency converting circuit converting an output from said third connection node to an intermediate frequency signal.

14. A satellite broadcasting receiving system receiving signal radio waves from broadcasting satellites, comprising

first and second satellite broadcasting receivers, each including first to fourth amplifiers respectively amplifying first to fourth signals extracted from said signal radio wave,

a first connection node supplied with outputs from said first and second amplifiers,

a second connection node supplied with outputs from said third and fourth amplifiers,

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10 a third connection node supplied with outputs from said first and
second connection nodes,
a fifth amplifier amplifying an output transmitted from said third
connection node,
15 a power supply control circuit controlling said first to fourth
amplifiers to set a current flowing through one of said first to fourth
amplifiers at a prescribed value and set currents flowing all the other
amplifiers at 0 such that an output from said one amplifier is transmitted
to said fifth amplifier through said third connection node, and
20 a frequency converting circuit converting an output from said fifth
amplifier to an intermediate frequency signal,
said system further comprising
an integrally formed waveguide shared by said first and second
satellite broadcasting receivers.

15. A satellite broadcasting receiving system receiving signal radio
waves from broadcasting satellites, comprising
first and second satellite broadcasting receivers, each including
first to fourth amplifiers respectively amplifying first to fourth
5 signals extracted from said signal radio wave,
a first connection node supplied with outputs from said first and
second amplifiers,
a second connection node supplied with outputs from said third and
fourth amplifiers,
10 a third connection node supplied with outputs from said first and
second connection nodes,
a fifth amplifier amplifying an output transmitted from said third
connection node, and
a frequency converting circuit converting an output from said fifth
15 amplifier to an intermediate frequency signal,
said system further comprising
a power supply control circuit controlling said first to fourth
amplifiers to set a current flowing through one of said first to fourth

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20 amplifiers at a prescribed value and set currents flowing through all the
other amplifiers at 0 such that an output from said one amplifier is
transmitted to said fifth amplifier through said third connection node,
first and second output terminals,
a switching circuit controlled by said power supply control circuit for
selectively switching outputs from said frequency converting circuits of said
25 first and second satellite broadcasting receivers and applying said outputs
to said first and second output terminals, and
an integrally formed waveguide shared by said first and second
satellite broadcasting receivers.

16. The satellite broadcasting receiving system according to claim
15, wherein each of said first to fifth amplifiers in each of said first and
second satellite broadcasting receivers includes a high electron mobility
transistor.

17. A satellite broadcasting receiving system receiving signal radio
waves from broadcasting satellites, comprising
first and second satellite broadcasting receivers, each including
first to fourth amplifiers respectively amplifying first to fourth
5 signals extracted from said signal radio wave,
a first connection node supplied with outputs from said first and
second amplifiers,
a second connection node supplied with outputs from said third and
fourth amplifiers,
10 a third connection node supplied with outputs from said first and
second connection nodes, and
a fifth amplifier amplifying an output transmitted from said third
connection node,
said system further comprising
15 a power supply control circuit controlling said first to fourth
amplifiers to set a current flowing through one of said first to fourth
amplifiers at a prescribed value and set currents flowing through all the

other amplifiers at 0 such that an output from said one amplifier is transmitted to said fifth amplifier through said third connection node,
20 first and second frequency converting circuits each converting an applied amplifier output to an intermediate frequency signal,
a switching circuit controlled by said power supply control circuit for selectively switching outputs from respective said fifth amplifiers of said first and second satellite broadcasting receivers and applying the outputs to
25 said first and second frequency converting circuits, and
an integrally formed waveguide shared by said first and second satellite broadcasting receivers.

18. The satellite broadcasting receiving system according to claim 17, wherein each of said first to fifth amplifiers in each of said first and second satellite broadcasting receivers includes a high electron mobility transistor.

19. A satellite broadcasting receiving system receiving signal radio waves from broadcasting satellites, comprising
first and second satellite broadcasting receivers, each including
first to fourth amplifiers respectively amplifying first to fourth
5 signals extracted from said signal radio wave,
a first connection node supplied with outputs from said first and second amplifiers,
a second connection node supplied with outputs from said third and fourth amplifiers,
10 a third connection node supplied with outputs from said first and second connection nodes, and
a fifth amplifier amplifying an output transmitted from said third connection node,
said system further comprising
15 a power supply control circuit controlling said first to fourth amplifiers to set a current flowing through one of said first to fourth amplifiers at a prescribed value and setting currents flowing all the other

amplifiers at 0 such that an output from said one amplifier is transmitted to said fifth amplifier through said third connection node,

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a frequency converting circuit converting an applied amplifier output to an intermediate frequency signal,

a switching circuit controlled by said power supply control circuit for selectively switching an output from said fifth amplifier of said first or second satellite broadcasting receiver and applying it to said frequency converting circuit, and

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an integrally formed waveguide shared by said first and second satellite broadcasting receivers.

20. The satellite broadcasting receiving system according to claim 19, wherein each of said first to fifth amplifiers in each of said first and second satellite broadcasting receivers includes a high electron mobility transistor.